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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,361	12/11/2003	Christopher W. Bergevin	HSJ9-2003-0191US1	2819

7590 04/05/2006

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EXAMINER

CULBERT, ROBERTS P

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,361

Applicant(s)

BERGEVIN ET AL.

Examiner

Roberts Culbert

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 8-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/11/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,783,489 to Kaufman et al.

Kaufman et al. teach a method of polishing using CMP comprising providing a slurry of Al_2O_3 (Col. 4, Lines 47-51) adjusting the concentration of H_2O_2 in the slurry to 6-12% (Col. 4, Lines 18-33) and balancing mechanical polishing action. (Cited range of 5-10 wt % overlaps claimed range of 6-12 vol%).

Note that the use of the slurry for the manufacture of magnetic heads containing CoFe is not given patentable weight because the recitation occurs only in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding Claim 3, Kaufman et al. teach a polishing pressure of 5-7 psi

Regarding Claim 6, Kaufman et al. teach a particle size of 50-500 nm. (Col. 5, Lines 50-54)

Regarding Claim 7, Kaufman et al. teach a pH for the slurry in the range of 4-6. (Col. 7, Lines 17-21)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,783,489 to Kaufman et al. in view of U.S. Patent 5,811,355 to Jordan

Regarding Claim 4, Kaufman et al. teach the method of the invention substantially as claimed but do not expressly teach a table speed of 55-90 rpm.

Kaufman et al. teaches 45 rpm table speed as an example. (Col. 9, Lines 1-52) However, Jordan teaches polishing a magnetic head using alumina particles (Col. 4, Lines 35-45) and hydrogen peroxide (Col. 4, Lines 15-30) Jordan teaches polishing table speeds vary from 5 to 100 rpm (Col. 5, Lines 35-37).

It would have been obvious to one of ordinary skill in the art at the time of invention to use a polishing speed of 5-100 rpm as taught by Jordan in order to provide suitable polishing for a magnetic head. Further, a person having ordinary skill in the art at the time of the claimed invention would have found it obvious to modify Kaufman et al. by using different processing parameters such as table speed because same were known to be cause effective variables and routine experimentation would have been expected to optimize them. *In re Boesch*, 205 USPQ 215 (CCPA 1980). Generally, changes in temperature, concentrations or other process conditions of an old process do not impart patentability unless the recited changes are critical, i.e., they produce a new and unexpected result.

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Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,783,489 to Kaufman et al. in view of U.S. Patent 6,066,028 to Cheng et al.

Regarding Claim 4, Kaufman et al. teaches the method of the invention substantially as claimed but do not teach the use of a corrosion inhibitor such as benzotriazole (BTA).

However the use of benzotriazole compounds, as a corrosion inhibitor is well known in the polishing art. For example, Cheng et al. teach that a slurry containing benzotriazole is useful as an inhibitor (Col. 2, Lines 1-44) in hydrogen peroxide slurries for magnetic head polishing. It would have been obvious to one of ordinary skill in the art at the time of invention to use benzotriazole as a corrosion inhibitor in the well-known manner.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,783,489 to Kaufman et al. in view of 6,786,944 to Hattori et al.

Regarding Claim 5, Kaufman et al. teaches the method of the invention substantially as claimed but do not teach the use of isothiazolone as a biocide. Hattori teaches a method of polishing a substrate comprising polishing using CMP comprising providing a slurry of Al_2O_3 (Col. 2, Lines 55-57) adjusting the concentration of H_2O_2 in the slurry (Col. 7, Lines 55-60) and balancing mechanical polishing action. Hattori et al teaches isothiazolone may be used as a preservative in CMP compounds containing Al_2O_3 and hydrogen peroxide, and also to "restrain scratches and dishing". (Col. 3, Lines 34-60) It would have been obvious to one of ordinary skill in the art to use isothiazolone in the polishing slurry of Kaufman et al. in order to prevent bacteria and improve polishing performance as indicated by Hattori et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberts Culbert whose telephone number is (571) 272-1433. The examiner can normally be reached on Monday-Friday (8:30-5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



R. Culbert
Examiner
Art Unit 1763



Parviz Hassanzadeh
Supervisory Patent Examiner
Art Unit 1763